SOME PARASITES OF LEPIDOPTERA LARVAE RECENTLY COLLECTED IN DELAWARE[1] [2] [3]

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ABSTRACT: The larval parasites of some Lepidoptera present in Delaware were surveyed and tabulated. Twenty-six parasitic species, including one new record, and 36 host-parasite relationships were obtained. Fourteen of these relationships are additions to the Thompson Host-Parasite Catalogue.

Parasites of Lepidoptera larvae in Delaware were collected from April to October, 1975 in conjunction with an attempt to find an alternate host for two gypsy moth parasites (Raffa 1976). Larvae collected in the field were reared to the adult stage in cardboard ice cream cups with transparent lids under artificial light simulating natural day length. Emerging adult parasites were collected and identified by the USDA ARS Insect Identification and Beneficial Insect Introduction Institute. Lepidopterans and parasites which had not transformed to the adult stage by 15 September were transferred to an outdoor insectary for overwintering.

The families and species of parasites, their numbers, hosts and host numbers collected are shown in Table 1. The species names of tentative identifications are given in parentheses. Of the 36 parasite-host relationships reported here, 14 are additions to Thompson's Host-Parasite Catalogue (1957).

A single specimen of *Chaetophlepsis,* tentatively identified as *C. nasellensis* Rein, may represent a new record or a new species, as *C. nasellensis* has been reported only from the state of Washington (Stone et al 1965). *Lespesia aletiae* (Riley) was recovered from

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three species of defoliators in soybean fields, *Epargyreus clarus* (Clemens), *Diacrisia virginica* (F.), and *Estigmene acrea* (Drury). Among the Braconids, the genus *Apanteles* was predominant (Table 1), having been recovered from 11 host species.

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LITERATURE CITED

Raffa, K.F. 1976. Potential alternate hosts of the Gypsy Moth parasite *Apanteles porthetriae*. Environ. Entomol. (in press).

Stone, A., C.W. Sabrosky, W.W. Wirth, R.H. Foote, and J.R. Coulson. 1965. A Catalog of the Diptera of America North of Mexico. USDA Handbook No. 276. U.S. Government Printing Office, Washington, D.C. 1696 p.

Thompson, W.R. 1957. Host Parasite Catalogue. Sect. 1, Parts 5-9 and Sect. 2, Parts 1-4. The Commonwealth Institute of Biological Control, Ottawa, Ontario, Canada.

Table 1. Parasites recovered from Lepidoptera larvae in Delaware, 1975.

Family	Species	No. Parasites Recovered	Host	No. Hosts Collected
Tachinidae				
	Chaetophlepsis sp. (*nasellensis* Rein)	1	*Paraphia unipunctata*[a] Haworth	18
	Blondelia sp. (*paradexoides* Townsend)	1	*Epimecis virginaria*[a] Cramer	7
	Actia sp. (*interrupta* Curran)	1	Tortricidae	1
	Parachaeta fusca Townsend	1	*Isia isabella*	25
	Lespesia aletiae (Riley)	3	*Epargyreus clarus* (Clemens)	10
		2	*Diacrisia virginica* (F.)[a]	30
		5	*Estigmene acrea* (Drury)[a]	20

Table 1. (Continued)

Family	Species	No. Parasites Recovered	Host	No. Hosts Collected
		1	*Paraphia pustularia* Hubner[a]	5
	Lespesia archippivora (Riley)	2	*Danaus plexippus*	8
	Nemorilla pyste (Walker)	5	*Yponomeuta multipunctella*[a] Clemens	36
Braconidae				
	Protomicroplitis foacetosa (Weed)	1	*Zale* sp.[a]	2
	Blacus sp.	1	*Isia isabella*[a] (J.E. Smith)	25
	Agathis annulipes (Cresson)	1	Tortricidae	3
	Apanteles diacrisiae Gahan	116[b]	*Diacrisia virginica* (F.)	30
	Apanteles hyphantriae Riley	8	*Hyphantria cunea* (Drury)	125
		1	*Estigmene acrea*[a] (Drury)	20
	Apanteles paleacritae Riley	1	*Zale* sp.	2
	Apanteles sp. (*pyralidis* Muesebeck)	20[c]	*Diacrisia virginica* (F.)	30
	Apanteles sp.	1	*Hyphantria cunea* (Drury)	125
		5	*Polia* sp.	6
		8[d]	*Lithophane unimoda* (Lintner)	14
		1	*Paraphia unipunctata*[a] Haworth	18
		1	*Paraphia pustularia* Hubner[a]	5
		1	Geometridae	1

Table 1. (Continued)

Family	Species	No. Parasites Recovered	Host	No. Hosts Collected
		1	Geometridae	1
		17[c]	*Loxostege* sp.	20
	Microplitis sp.	1	*Acronycta americana* Harris	3
		3	*Polia latex* (Guenee)[a]	3
Icheumonidae				
	Diradops bethunei (Cr.)	1	unknown	1
	Metopius sp.	1	unknown	1
	Triclistus sp.	1	Tortricidae	1
	Sinophorus sp.	2	*Hyphantria cunea* (Drury)[a]	125
	Casinaria sp.	1	Geometridae	1
	Campoletis flavicincta	1	*Spodoptera frugiperda*[a] (J.E. Smith)	1
	Hyposoter fugitivus (Say)	2	*Malacosoma americanum* (Fabricius) (L.)	50
		4	*Euchaetias egle* Drury	50
	Hyposoter pilosulus (Prov.)	5	*Hyphantria cunea* (Drury)	125
	Mesochorus sp.	1	Arctiidae	1
Eulophidae				
	Euplectrus catocalae Howard	7[f]	unknown	1

a. Host-parasite relationship not listed in Thompson (1957).

b. Three individual larvae issued 72, 27, and 17 parasites respectively.

c. A single larva issued 20 parasites.

d. A single larva issued 8 parasites.

e. 3 larva issued, 8, 4, and 5 parasites respectively.

f. A single larva issued 7 parasites.